

AN INDEPENDENT AUDIT OF MESH REPAIR FOR THE TREATMENT OF RECTOCELE

Hypothesis / aims of study

An independent medium term audit of the outcome of women undergoing posterior mesh rectocele repair to objectively assess the success of surgery with mesh overlay technique.

The treatment of rectoceles have been associated with a significant failure rate with few prospective studies addressing the multitude of different surgical techniques. In addition repair of the rectocele vaginal prolapse has been associated with long term complications such as narrowing of the vagina and dyspareunia (1). In order to address these issues various techniques incorporating mesh materials have been advocated to fix what has been described as a hernia of the posterior vaginal wall (2).

This study was undertaken to review the results of posterior colporrhaphy using the mesh overlay technique, using transperineal ultrasound as an objective tool to primarily diagnose recurrent rectocele fascial defects and measure the size of the defect. In addition an attempt was made to quantify perineal hypermobility and the size of the levator hiatus to see if there was any correlation between failed surgery and these parameters. Transperineal ultrasound has previously been shown to correlate with the POP-Q score for assessment of pelvic floor prolapse (3) and was therefore used to provide independent, objective evidence of the success of surgery.

Study design, materials and methods

This was a retrospective, blinded study of the outcome of rectocele repair in 49 women.

Women were recruited from two hospitals (TTH and MH) and operated on using a standard technique using composite Vicryl-Prolene mesh (Gynaecare, Vipro II) cut to lay over the defect, which was then secured at 4 points without tension. The vagina was then closed using a single 2/0 Vicryl absorbable suture. All operations were undertaken by or under the supervision of one senior experienced surgeon.

For the postoperative ultrasound assessment women were placed in the supine position, having emptied their bladder. A GE Voluson 730 ultrasound using a Kretz 7-4 MHz volume probe was placed on the perineum in the midsagittal plane. Using ultrasonic jelly at the interface, volume data was acquired at rest and on maximum Valsalva, having undertaken the manoeuvre at least 3 times under close supervision. Volumes were stored and reviewed. Defects in the rectovaginal septum were noted and measured in the cranio-caudal diameter as well as vertically to obtain the depth of the defect. In addition the degree of perineal mobility was assessed by measuring downwards displacement of the rectal ampulla, relative to the symphysis pubis. The diameters and area of the Levator hiatus at rest and on Valsalva were measured as shown below, such that the plane chosen was symmetrical, containing the shortest distance between symphysis pubis anteriorly and levator muscle posteriorly.

Results

Of the 49 women in the study 48 complete datasets were obtained. Mean age was 58.6 yrs (SD 12.4), mean parity of 3. Nine women (19%) had previous vaginal wall prolapse repairs and 34 women (71%) had other concomitant prolapse repairs, hysterectomy or urethrotomy. The length of time following surgery at follow-up was 0.7 years (SD 0.29). On ultrasound 20 women (40%) had persistent defects of the posterior vaginal wall septum. Mean depth of such defects was 0.92 cm (SD 0.2) and width was 1.56cm (SD 0.35 cm). Mean areas of the levator hiatus were 17.87 (SD 3.72 cm) at rest and 23.76 cm (SD 4.43) on Valsalva. The rectal ampulla reached 0.13 cm (SD 1.32) above the symphysis pubis on average.

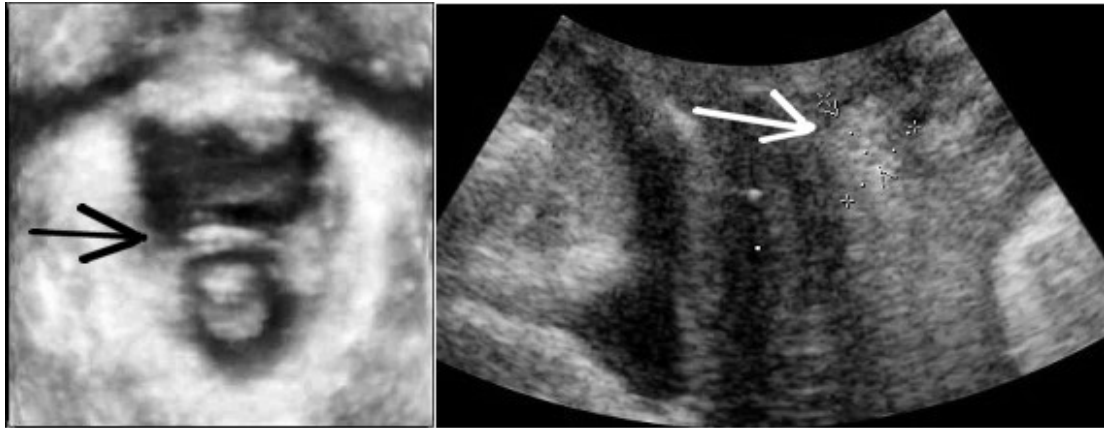


Figure: Axial view of the levator hiatus after successful mesh repair (left, arrow points to mesh anterior to anorectal junction) and midsagittal view of recurrent rectocele (arrow, right).

There was no correlation between levator area, AP and transverse diameters at rest and on Valsalva or perineal mobility with age, parity, follow-up time, or the symptom of incomplete bowel emptying. Nor was there any correlation between this symptom with persistence of a defect as seen on ultrasound ($p=0.477$, two-sample T-test). There was however a moderate negative correlation between descent of the rectal ampulla and levator hiatal area on Valsalva ($r=-0.428$, $p=0.002$) as well as the hiatal AP diameter on Valsalva ($r=-0.39$, $p=0.006$).

Interpretation of results

This study demonstrates an unexpectedly high persistence of defects of the rectovaginal septum after rectocele repair using a mesh implant. However, most of these defects were small, and persistence of a defect did not correlate with symptoms of incomplete emptying. Many patients also showed a significant degree of perineal hypermobility, and this was associated with the dimensions of the levator hiatus.

Concluding message

Three dimensional pelvic floor ultrasound is quick and can offer an independent and objective assessment of pelvic floor surgery for the correction of posterior vaginal wall prolapse. There is a wide variation in ultrasound findings postoperatively, with the mesh sometimes being clearly seen either providing coverage of the defect or having moved laterally. Persistent defects of the rectovaginal septum are common but mostly small and not associated with persistence of symptoms.

References

- 1 Vaginal Surgery 4th Ed. Williams & Wilkins. Chap 11.
- 2 The use of synthetics in the treatment of pelvic organ prolapse. Current Opin Obstet Gynaecol 2001 11(4): 429-435
- 3 Ultrasound in the quantification of female organ prolapse. Ultrasound in Obstetrics and Gynaecology 2001; (18): 511-514